

CLASSIFICATION SECRET/SECURITY INFORMATION
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SUBJECT Fuel Consumption Estimates for the "Reydtanker,"
"Kasptanker" and "Volgatanker" Shipping Companies
in 1951

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1. The following chart shows the consumption of fuel and lubricants by the "Reydtanker" Shipping Company in 1951:

Type of Vessel and its purpose	CONSUMPTION OF FUEL AND LUBRICANTS/TONS			
	Monthly		Seasonal	
	Fuel	Lubricants	Fuel	Lubricants
1. Transport Motorships.....	1,800	75	16,500	680
2. Transport Steamships.....	450	8	4,100	72
3. Service-Auxiliary Motorships.....	250	10	2,500	100
4. Service-Auxiliary Steamships and others.....	1,000	18	11,000	180

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At the present time,
consumption of fuel and lubricants will be somewhat higher since new vessels
have been added to the fleet.

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2. The chart below shows total consumption of fuel and lubricants by category for the "Reydtanker" Shipping Company for 1951:

Type of Fuel or Lubricant	CONSUMPTION OF FUEL OR LUBRICANTS IN TONS	
	Monthly	Seasonal
1. Diesel Fuel.....	2,050	19,000
2. Fuel Mazut.....	1,450	15,000
3. Lubricants.....	121	1,032

3.

used to ascertain more complete figures:

The following method can be

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Engines in "Kasptanker" Shipping Company transport motorships develop a combined total of 45,000 hp; engines in transport steamships develop a combined total of 42,000 hp; engines of service-auxiliary ships develop a combined total of 2,000 hp; machinery of service-auxiliary ships have a combined total of 3,000 hp. The average consumption of fuel for Diesels is 190-200 grams per horsepower per hour. The average consumption of lubricants for Diesels is six to eight grams per horsepower per hour. The average consumption of fuel for steam engines is about 350 grams per horsepower per hour. The average consumption of lubricants for steam engines is about five or six grams per horsepower per hour. The monthly consumption of fuel and lubricants for "Kasptanker" Shipping Company transport vessels (tankers and tugs) is usually calculated by taking 600 hours as the average amount of time ships are under sail in a month, taking into account the work of auxiliary mechanisms such as the Diesel-dynamo, pumps, anchor and mooring apparatus which are in use when the vessels are standing still. For service-auxiliary vessels figures for fuel and lubricant consumption are based on a monthly average of 480 hours under sail.

4. Taking figures on horsepower of ship engines and machinery, consumption of fuel and lubricants in grams per horsepower and the monthly total of hours under sail, "Kasptanker" Shipping Company fuel and lubricant consumption will be as follows:

- (a) Transport motorships
 (1) fuel - 200 grams x 45,000 horsepower x 600 hours = 5,400 tons.
 (2) lubricants - eight grams x 45,000 horsepower x 600 hours = 216 tons.
- (b) Transport steamships
 (1) fuel - 350 grams x 42,000 horsepower x 600 hours = 8,830 tons.
 (2) lubricants - six grams x 42,000 horsepower x 600 hours = 151 tons.
- (c) Service-Auxiliary motorships
 (1) fuel - 200 grams x 2,000 horsepower x 480 hours = 192 tons.
 (2) lubricants - eight grams x 2,000 horsepower x 480 hours = 7.7 tons.
- (d) Service-Auxiliary steamships
 (1) fuel - 350 grams x 3,000 horsepower x 480 hours = 504 tons.
 (2) lubricants - six grams x 3,000 horsepower x 480 hours = 8.6 tons.

Assembling these figures, we get the following table as the seasonal consumption of fuel and lubricants:

Types of Vessel and its purpose	CONSUMPTION OF FUEL AND LUBRICANTS IN TONS			
	Monthly average		Seasonal Average	
	Fuel	Lubricants	Fuel	Lubricants
1. Transport Motorships.....	5,400	216	54,000	2,160
2. Transport Steamships.....	8,830	151	88,300	1,510
3. Service-Auxiliary Motorships.....	192	7.7	1,920	77
4. Service-Auxiliary Steamships.....	504	8.6	5,040	86

The seasonal consumption is based on 10 months as the average navigational season.

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5. Total consumption of fuel and lubricants by category in the "Kasptanker" Shipping Company for 1951 is as follows:

Category of Fuel and Lubricant	CONSUMPTION OF FUEL AND LUBRICANT	
	Monthly	Seasonal
1. Diesel Fuel.....	5,592	55,920
2. Mazut Fuel.....	9,334	93,340
3. Lubricants.....	383.3	3,833

These figures will not differ significantly from the actual figures and make possible a quite adequate understanding of fuel and lubricant requirements for this shipping company's fleet.

5. The methodology for determining fuel and lubricant consumption for the "Volgatanker" Shipping Company will be similar to that used for the "Kasptanker" Shipping Company, but in this connection, the following should be kept in mind: "Volgatanker" operational sectors are from Astrakhan to Gorki and therefore fuel and lubricant consumption figures will be given for the Astrakhan operational sector as well as for the shipping company as a whole. These consumption figures will not take into account shore installations and floating pump stations.
7. The average navigation period for the "Volgatanker" Shipping Company lasts seven months, while for service-auxiliary ships the season is eight months. The "Volgatanker" Shipping Company as a whole has the following:

About 35 transport motorships, each with 900 to 1,200 horsepower;
 15 new transport motorships, each with 600 horsepower;
 40 transport steamships, each with 400-1,200 horsepower;
 Service-auxiliary motorships with a combined total of 1,000 horsepower;
 Service-auxiliary steamships with a combined total of 8,000 horsepower.

3. The average monthly consumption of fuel and lubricants by "Volgatanker" for 1951 can be ascertained by using the following figures:

- (a) Transport motorships
 (1) fuel - 200 grams x 46,300 horsepower x 600 hours = 5,680 tons
 (2) lubricants - eight grams x 46,300 horsepower x 600 hours = 228.2 tons
- (b) Transport steamships
 (1) fuel - 350 grams x 32,000 horsepower x 600 hours = 6,220 tons
 (2) lubricants - six grams x 32,000 horsepower x 600 hours = 115 tons
- (c) Service-Auxiliary motorships
 (1) fuel - 200 grams x 1,000 horsepower x 480 hours = 96 tons
 (2) lubricants - eight grams x 1,000 horsepower x 480 hours = four tons
- (d) Service-Auxiliary steamships
 (1) fuel - 350 grams x 8,000 horsepower x 480 hours = 1,342 tons
 (2) lubricants - six grams x 8,000 horsepower x 480 hours = 23 tons

9. The following chart will show fuel and lubricant consumption totals for the navigation season, with the Astrakhan Operational Sector entered separately:

Type of Vessel and its Purpose	CONSUMPTION OF FUEL AND LUBRICANTS IN TONS			
	Monthly		Seasonal	
	Fuel	Lubricants	Fuel	Lubricants
1. Transport Motorships... -of which Astrakhan...	5,680 3,600	228.2 144	39,800 25,200	1,600 1,008
2. Transport Steamships... -of which Astrakhan...	6,220 2,510	115 43.2	43,510 17,600	855 310
3. Service-Auxiliary Motorships..... -of which Astrakhan...	96 36	4 1.5	768 240	32 12
4. Service-Auxiliary Steamships..... -of which Astrakhan...	1,342 504	23 8.6	10,720 4,032	184 68.8

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10. The following table shows total fuel and lubricant consumption by categories for 1951, with the Astrakhan Sector entered separately:

Type of Fuel and Lubricant	Consumption of Fuel and Lubricant	
	Monthly	Seasonal
1. Diesel Fuel.....	5,776	40,568
Astrakhan.....	3,630	25,440
2. Fuel Mazut.....	7,562	54,230
Astrakhan.....	3,014	21,632
3. Lubricants.....	370.2	2,671
Astrakhan.....	197.3	1,399

At the present time, consumption of fuel and lubricants by the "Volgatanker" Shipping Company will be somewhat higher as a result of the acquisition of new vessels.

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